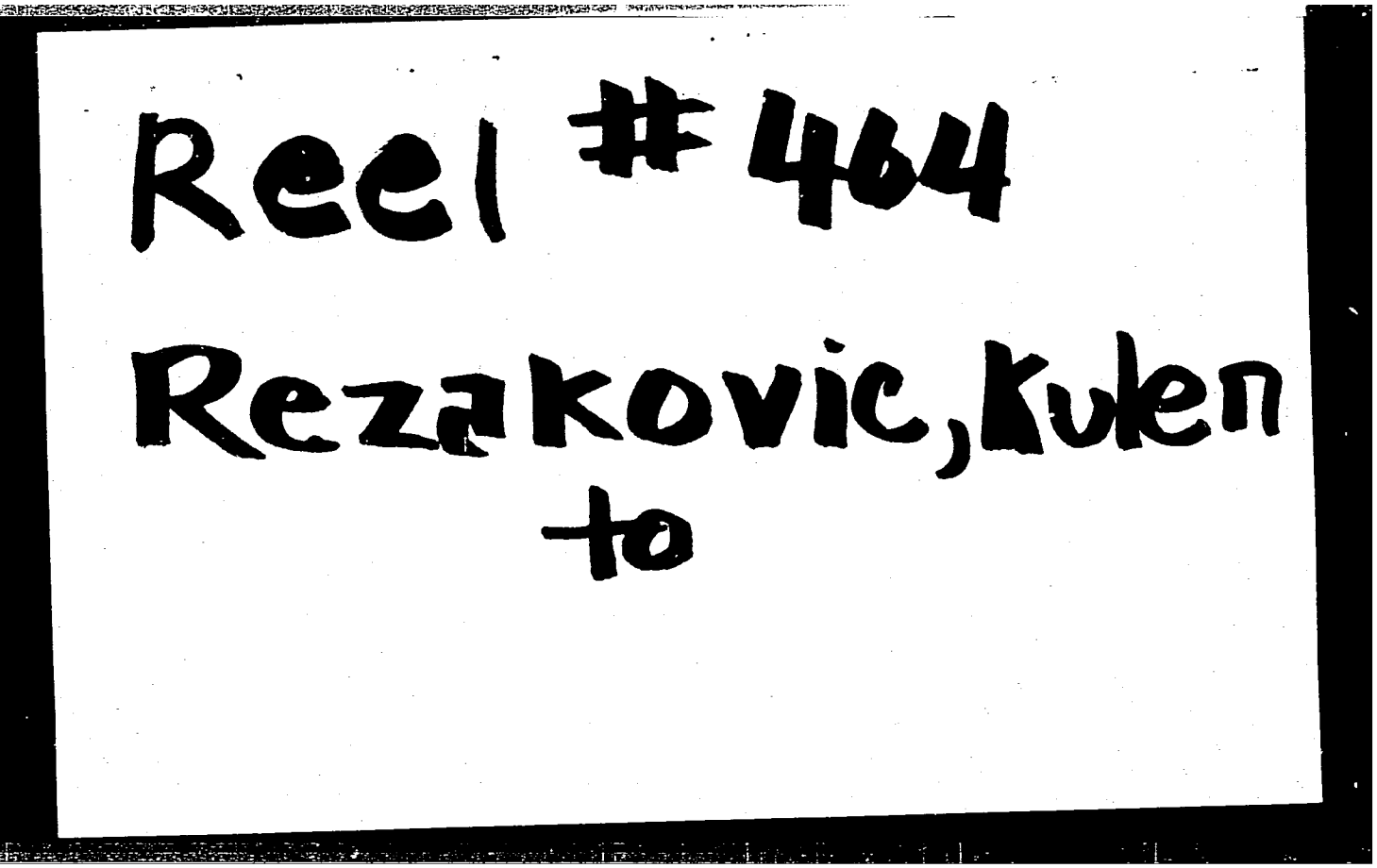

REZAKOVIC, S.; KULENOVIC, S.; AKSAMIJA, B.

Mediastino-pulmonary changes in Hodgkin's disease. Med.arh., Sarajevo 14 no.6:73-84 N-D '60.

1. II Interna klinika Medicinskog fakulteta u Sarajevu (Sef: prof. d-r Miron Simic)
(HODGKIN'S DISEASE pathol)
(MEDIATINUM pathol)
(LUNGS pathol)

43030

S/194/62/000/010/068/084
A055/A126

AUTHORS: Štěpnička, Bořivoj, Řezanina, Ivo, Pokorný, Josef

TITLE: Cavity resonator with frequency control

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962, 85, abstract 10-7-169ts P (Czech. pat., cl. 21a^4, 69, no. 97652, December 15, 1960)

TEXT: The patent concerns a cavity resonator for centimeter waves, where the frequency control is effected with the aid of a ferrite placed along the symmetry axis of the cavity. To reduce dielectric losses, the ferrite is oriented along the magnetic component of the field. With the aid of permanent magnetization, the working point of the ferrite is shifted into the region of minimum permanent attenuation, and the steepness, i.e., the dependence of the frequency variation on the magnetic field strength, is at its maximum. The magnetization magnitude depends on the ferrite characteristic and on the required frequency-range variation. The most advantageous conditions with respect to reduction of magnetic and dielectric losses are pointed out for position and shape of the fer-

S/194/62/000/010/068/084
A055/A126

Cavity resonator with frequency control

rite in the resonator cavity. The influence of the material and of the geometri-
cal relations of the resonator walls is examined. The characteristics of the
system and the diagrams of the fields are reproduced and the structure of the re-
sonator (consisting of framework, ferrite, coil and permanent magnet) is de-
scribed. The parameters of a real system used for stabilizing the microwave
klystron frequency are given. When the volume of the cavity resonator changes,
the geometrical relations must be constant. The possibility of using cavity re-
sonators for other frequency ranges with different ferrite types is examined.

V.N.

[Abstracter's note: Complete translation]

Card 2/2

REZANKA, I.

An induction coil for measuring a magnetic field. Chekhosl fiz zhurnal 13 no.7:545-548 '63.

1. Ustav jaderneho vyzkumu, Ceskoslovenska akademie ved, Rez.

REZANKA, I.

"Scintillation counters in nuclear engineering" by R.Weibrecht. Reviewed by I. Rezanka. Jaderna energie 9 no.2:48 F '63.

ACCESSION NR: AP4026359 Z/0055/64/014/003/0152/0157

AUTHOR: Frana, J.; Rezanka, I.

TITLE: Radioactive decay of Ni sup 65

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 14, no. 3, 1964, 152-157

TOPIC TAGS: Radioactive decay, nuclear physics, Ni sup 65, Cu sup 65, Coulomb excitation, beta spectrum, spectroscopy, beta transition, gamma spectrum, NiCl sub 2, Ni sup 64, neutron, thermal neutron, spectrometer

ABSTRACT: The radioactive decay of Ni^{65} was studied on a short-lens spectrometer and on a scintillation spectrometer with a 200 channel amplitude analyzer. $NiCl_2$ with nickel enrichment to 78% was used for the measurements. This was bombarded in a reactor with a thermal neutron flux of $10^{13}/cm^2$ sec for 2 hours. The continuous beta spectrum was measured on a short-lens spectrometer with a 2% resolution. The measurements indicated a half-life period of 2.58 hours. The gamma spectrum was measured with a 1.5 x 1" NaI crystal and 200 channel amplitude analyzer. The spectrum was resolved into different lines, and the energies and transition intensities were determined. Three groups of the beta spectrum with energies of 2140 ± 10,

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ACCESSION NR: AP4026359

1020 ± 25, and 650 ± 30 keV and with relative intensities of 58 ± 5, 11 ± 3, and 30 ± 5% were found with a magnetic spectrometer. The existence of another two beta transitions with energies of 520 and 420 keV were also found with gamma spectrum measurements. Seven transitions were found in the gamma spectrum: 370 (4.6%), 510 (0.37%), 610 (0.22%), 1115 (17%), 1480 (24%), 1620 (0.5), and 1720 keV (0.45%). Insofar as the existence of other gamma transitions is concerned, they are weaker than 0.03% at decay. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Nuclear Research Institute, Czechosl. Acad. Sci., Rez

SUBMITTED: 06Sep63 DATE ACQ: 15Apr64 ENCL: 00

SUB CODE: NP NO REF SOV: 000 OTHER: 017

Card 2/2

FRANA J.; REZANKA, I.; VOBECKY,M.; MASTALKA, A.

γ-spectrum of neutron-deficient La isotopes of $T_{1/2} \sim 5$ hours. Chekhosl fiz zhurnal 14 no.8:652-653 '64

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez.

L 56705-65 EWP(t)/EWP(b) Peb DIAAP/IJP(c) JD/JG

ACCESSION NR: AP5018830 CZ/0038/64/010/008/0292/0292

AUTHOR: Frana, Jiri (Frana, Y.); Rezanka, Ivo (Rzhezanka, I.); Vobecky, Milos (Vobetskiy, M.); Mastalka, Antonin (Mashtalka, A.)

TITLE: Spectrum of lanthanum isotopes deficient in neutrons with a half life of about 5 hours

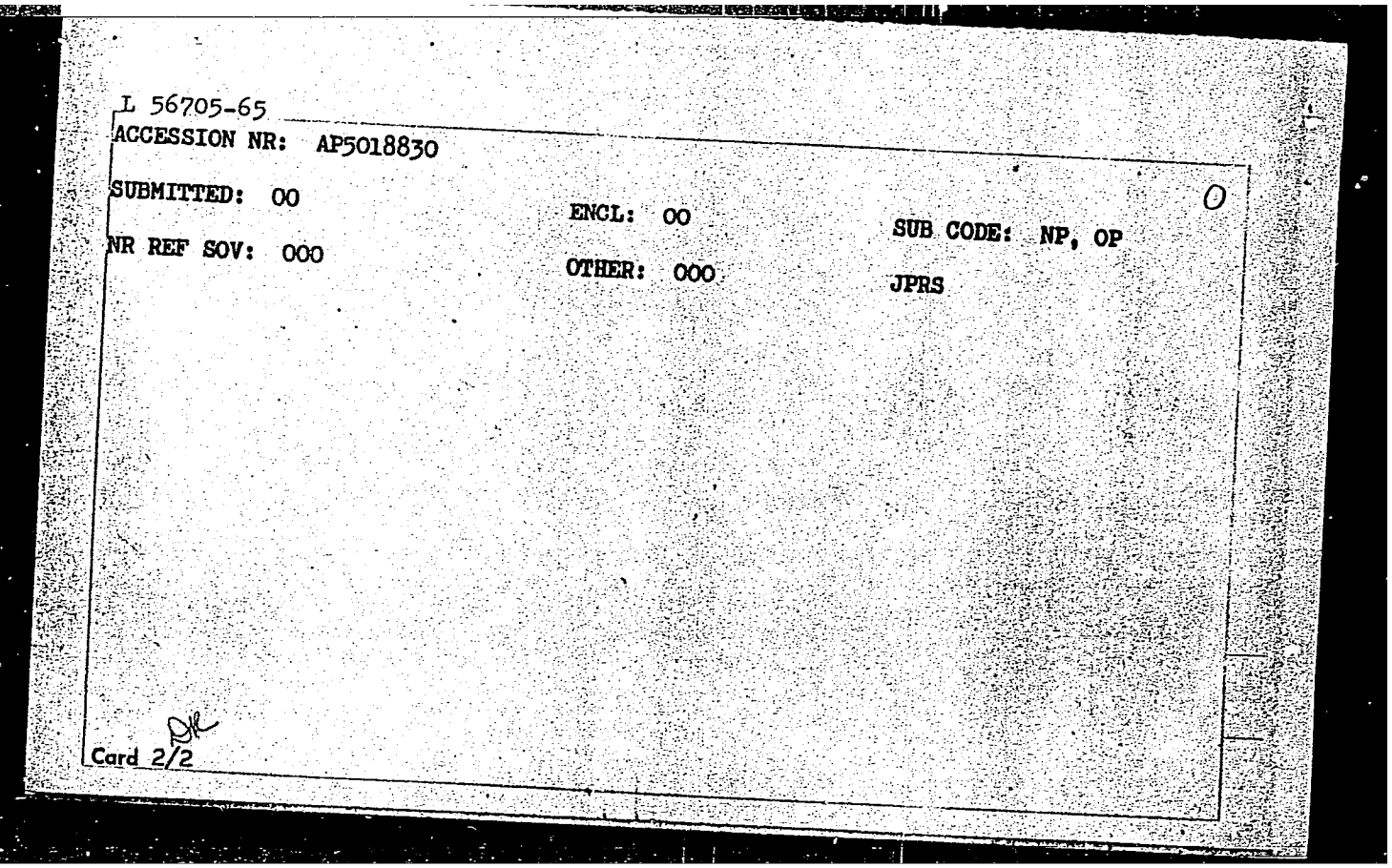
SOURCE: Jaderna energie, v. 10, no. 8, 1964, 292

TOPIC TAGS: lanthanum, radioisotope, spectroscopy

Abstract: Spectra of gamma isotopes La 132 and La 133 were measured. They have approximately identical half lives; they were obtained by splitting a Ta target with protons of 660 MeV. Measurements on a scintillation spectroscope showed about 30 transitions (with a maximum energy 3625 keV and T 1/2 = 5.0 ± 0.2 Hours. Energies and intensities of transitions are listed. The article is an abstract of Report UJV No 1017/64.

ASSOCIATION: Ustav jaderneho vyzkumu CSAV, Rez (Institute for Nuclear Research CSAV)

Card 1/2



L 56705-65
ACCESSION NR: AP5018830

SUBMITTED: 00 ENCL: 00 SUB CODE: NP, OP

NR REF SOV: 000 OTHER: 000 JPRS

O

Card 2/2

L 15226-65 EWT(m) DIAAP
ACCESSION NR: AP4046324

Z/0055/64/014/009/0678/0682

AUTHOR: Frana, J.; Rezanka, I.; Spalek, A.

TITLE: Decay of Cs^{134m}

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 14, no. 9, 1964, 678-682

TOPIC TAGS: Cs 134, decay half time, isomeric state, conversion electron spectrum

ABSTRACT: The decay of the isomeric state of Cs^{134} was studied. The sources were prepared by irradiation of $CsNO_3$ with thermal neutrons for 2 hr at a flux of about 10^{13} n/cm^2 sec. Relatively thin and homogeneous sources were obtained by precipitating $CsNO_3$ from an aqueous solution in ethyl alcohol. The decay half-time $T_{1/2}$ was determined to be 2.93 ± 0.05 hr. From measurements carried out by means of a spectrometer with a short lens, scintillation measurements, and chemical separations, the non-existence of weak decay β of the isomeric state was established, a result contar to previous

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L 15226-65
ACCESSION NR: AP4046324

statements in the literature. The maximum possible intensity of Cs^{134m} β-decay was found to be 0.02%, as compared to the value of about 1% in the literature. The spectrum of conversion electrons was measured with a double-focusing spectrometer, and the following transition energies were determined: 127.3 ± 0.3 kev (E3) and 138.4 ± 0.4 kev (M4) (K:L:M + N is 92:100:27 for the 127.3-kev transition and 206:100:31 for the 138.4-kev transition). The conversion coefficient of the 127-kev transition was measured, and its value was found to be $\alpha_K = 2.55 \pm 0.4$. The ratio of transition intensities was $I_{138}:I_{127} = 5.7:1000$. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Nuclear Research Institute, Czechosl. Acad. Sci., Rez

SUBMITTED: 03Mar64 ATD PRESS: ENCL: 00

SUB CODE: NP, IC NO REF SOV: 001 OTHER: 011

Card 2/2

CZECHOSLOVAKIA/Nuclear Physics - Installations and Instruments.
Methods of Measurement and Research.

Abs Jour : Ref Zhur - Fizika, No 6, 1959, 12269

Author : Rezanka, Ivan
Inst : -
Title : Electron Optical Parameters of the Field 1/r and Its Application in Nuclear Spectroscopy.

Orig Pub : Chekhosl. fiz. zh., 1958, 8, No 3, 355-365.

Abstract : See Referat Zhur Fizika, 1959, No 1, 222.

Card 1/1

REZANKA, I.

SCIENCE

Periodical CESKOSLOVENSKY CASOPIS PRO FYSIKU. Vol. 8, no. 1, 1958.

REZANKA, I. Electron optical parameters of the 1/r field and its use in nuclear spectroscopy. p. 93.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

FRANA, Jiri; REZANKA, Ivan; SPALEK, Antonin

Decay of Cs^{134m}. Jaderna energie 10 no.8:292 Ag '64.

1. Institute of Nucelar Research, Czechoslovak Academy of Sciences, Rez.

FRANA, Jiri; REZANKA, Ivo; VOBECKY, Milos; MASTALKA, Antonin

Spectrum of lanthanum isotopes deficient in neutrons with the semiperiod of around 5 hours. Jaderna energie 10 no.8:292 Ag '64.

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez.

PRANA, J.; REZANKA, I.; SPALEK, A.

Decay of Cs ^{134m}. Chekhosl fiz zhurnal 14 no.9:678-682 '64.

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez.

FRANA, J.; REZANKA, I.

Radioactive decay of Ni^{65}. Chekhosl fiz zhurnal 14 no. 3:152-157 '64.

1. Nuclear Research Institute, Czechoslovak Academy of Sciences, Rez.

L 56707-65 EWP(t)/EWP(b) Peb DIAAP/IJP(c) JD/JG CZ/0038/64/010/008/0292/0292
ACCESSION NR: AP5018831

AUTHOR: Frana, Jiri; Rezanka, Ivan; Spalek, Antonin;

TITLE: Decay of Cs^{134m}

SOURCE: Jaderna energie, v. 10, no. 8, 1964, 292

TOPIC TAGS: cesium, radioisotope, radioactive decay, radioactive decay scheme

Abstract: Decay of isomeric state of Cs 134 was studied. T 1/2 of 2.93 ± 0.05 hours was determined. Using a spectrometer with a short lens, scintillation measurements, and chemical separations it was possible to show the non-existence of weak beta decay. Max. intensity is 0.02% not 1% found in past publications. Spectrum of conversion electrons was measured by a double-focusing spectrometer, and the following transition energies were found: 127.3 ± 0.3 keV (E3) and 138.4 ± 0.4 keV (M4). K:L:M+N

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L 56707-65

ACCESSION NR: AP5018831

is 92:100:27 for the 127.3 keV transition, and 206:100:31 for the 138.4 keV transition. Conversion coefficient of the 127.3 keV transition was measured, resulting in a value of alpha K = 2.55 ± 0.4. The ratio of transition intensities is I138: I137 = 5.7 : 1000. The article is an abstract of report No UJV No 1018/64.

ASSOCIATION: Ustav Jaderneho vyzkumu CSAV, Rez (Institute of Nuclear Research, CSAV)

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 000 OTHER: 000 JPRS

Card 2/2

CZECHOSLOVAKIA/Nuclear Physics - Installations and Instruments. C-2
Methods of Measurement and Research

Abs Jour : Ref Zhur - Fizika, No 1, 1959, No 222

Author : Rezanka Ivan
Inst : Institute of Nuclear Physics, Czechoslovak Academy of Sciences, Prague, Czechoslovakia
Title : Electron-Optical Parameters of a Field that Varies as 1/r, and Its Application to Nuclear Spectroscopy

Orig Pub : Ceskosl. casop. fys., 1958, 8, No 1, 93-102

Abstract : The author calculates the electron-optical parameters of an axially symmetrical magnetic field, that diminishes in the central plane in inverse proportion to the distance from the axis. The equipotential surfaces of such a beam are conic surfaces with a common vertex and a common axis. An estimate is made of the influence of the scattering on the vertical focusing. The results obtained are used in the design of a sector and prismatic β -spectrometer.

Card : 1/1 V.I. Lend'yel

REZANKA, J.

"Elementary particles" by Ju.V.Novozilov [Novozhilov, Yu.V.].
Reviewed by J.Rezanka. Jaderna energie 8 no.12:452 '62.

REBANOV, A.

"The Electromagnetic Field of a Point Charge in the Presence of a Plane Boundary Separating Two Dielectrics," Zhur. Eksper. i Teoret. Fiz., 16, No. 10, 1946. Mbr., Ural State University im. A. M. Gor'kiy, Sverdlovsk, -1946-.

REZANOV, A.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Foods

Purification of whey from nonsugar (substances) in the manufacture of milk sugar. A. Rezanov and L. Sokolova. *Molochnaya Prom.* 14, No. 11, 37–40(1953).—Methods for the purification of whey from proteins, Ca ions, and salts and the relative importance of analysis at various stages are evaluated and discussed. Vladimir N. Krukovsky

REZANOV, A.I.

Remarks on the Stationary States of an Electron in a Non-Periodic Field. A. I. Rezanov (*Fizika Metallov i Metallovedenie*, 1956, 3, (1), 11-14).—[In Russian]. The lattice fields of real metals depart from perfect periodicity because of temp., foreign atoms, interstitial atoms, mech. strains, &c. R. shows that the non-periodic lattice-potential can be expressed as an infinite series of almost periodic functions and that when this is done the equations for the energy gaps, &c., retain the same formalism as for the ideal periodic field. Since the properties of almost periodic functions are, in some cases, known, the formal relations should be applicable to real metals.—A. F. B.

AUTHOR: Rezanov, A.I. 102

TITLE: Energy of the electron in the almost periodic field. Part I. (Energiya elektrons v pochti-periodicheskom pole. I.)

PERIODICAL: "Fizika Metallov i Metallovedenie," (Physics of Metals and Metallurgy), 1957, Vol.IV, No.1 (10), pp.14-16, (U.S.S.R.)

ABSTRACT: Application of periodic functions in the theory of crystals facilitates considerably mathematical calculation of the electron states. However, in real crystals containing various distortions and contaminations the periods represent only average distances between the atoms. The real configuration does not coincide with the ideal crystal structure and it can approach it only under certain conditions. For the theoretical description of the electron properties of such crystals and particularly of structure-sensitive properties, for instance, galvano-magnetic ones, it is necessary to dispense with artificial "periodisation" of the ion field and to try and use as a potential function of the electron a suitable almost-periodic function. It is shown that in a simpler, almost periodic field, the energy spectrum of the electron will represent a grouping of two sets of areas of solved energy values. The almost-periodic potential as expressed by eq.(4), p.15 ensures the existence of two series of alternating bands of solved energy values; the location and the width of the bands of one series relative to the bands of the other series

Energy of the electron in the almost periodic field. Part I.

can be varied by suitably selecting the values of individual coefficients. 1 Figure, 3 references, all of which are Russian.

Ural State University imeni A. M. Gorky. Recd. April 24, 1956.

SOV/126-6-4-4/34

AUTHOR: Rezanov, A.I.

TITLE: The Energy of an Electron in an Almost-Periodic Field. II (Energiya Elektrona v pochti-periodicheskom pole. II)

PERIODICAL: Fizika metallov i metallovedeniye, 1958, Vol.6, Nr 4, pp 601-608 (USSR)

ABSTRACT: In Ref.1 (in the press) the author tried to determine the states of an electron in a weak ionic field with an almost periodic potential. The main result of that work is that the general features of the energy spectrum of an electron in a periodic field, e.g. the presence of allowed and forbidden energy values, are preserved also in the case of an almost periodic field but in the latter case the position and the width of these regions are different. In the present paper an attempt is made to determine the electron states in a non-ideal lattice starting from the electron states in an isolated atom. For simplicity the 1-dimensional case is considered. In the distortion of an ideal chain the original periodic potential $V_p(x)$ of the self consistent field

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The Energy of an Electron in an Almost-Periodic Field. II

will experience changes of two kinds: 1) The value of $V_p(x)$ will change at each point and, in particular, the magnitude of the maxima and minima of this function will change and 2) The position of these maxima and minima will be altered in correspondence with the displacement of atoms from the nodes of an ideal chain. As a result the function $V_p(x)$ is transformed into a new function $V(x)$ whose behaviour will represent the properties of a configuration of ions in a non-ideal chain. Expressions are derived for the wave function and the electron energy in the field of ions whose configuration corresponds to an almost periodic behaviour of the potential. It is shown that the well known formula:

$$E = E_o + I_o + 2l \cos ka \qquad (63)$$

for an ideal chain is subject to the following changes when the ideal chain is distorted so that the initial periodic potential $V_p(x)$ goes over to an almost

The Energy of an Electron in an Almost Periodic Field. II

periodic potential $V_{pp}(x)$: 1) the energy band given by Eq.(63) is displaced by an amount:

$$\int \varphi(x) \left\{ V_{pp}(x) - V_{p}(x) \right\} \varphi(x) dx \qquad (64)$$

2) the band is split into 2 bands, $E_1(k)$ and $E_2(k)$. Thus the allowed energy values form an aggregate of two bands and may be calculated from density distribution functions in a non-ideal chain. After a generalisation to the 3-dimensional case, these results may be used to determine the wave function and the electron energy in a non-periodic field of ions in a distorted lattice without the use of rigid models of the structure of a non-ideal crystal. S.V.Vonsovskiy (Corresponding Member of the Academy of Sciences of the USSR), A.N.Orlov (Candidate Physico-Mathematical Sciences) and

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The Energy of an Electron in an Almost-Periodic-Field. II

V.P.Shirokovskiy are thanked for their interest and advice. There are 3 Soviet references.

ASSOCIATION: Ural'skiy Gosudarstvennyy Universitet Imeni A.M.Gor'kogo (Urals State University imeni A.M.Gor'kiy)

SUBMITTED: 15th January 1957.

Card 4/4

83347

S/139/60/000/004/003/033
E032/E514

21.4500

AUTHORS: Rezanov, A. I., Rybin, I. A. and Masharov, S. I.

TITLE: Application of the Perfect Differential Method to the Solution of Quantum Mechanical Problems

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No.4, pp.40-45

TEXT: The perfect differential method put forward by Maurin (Ref.1) consists in the following: the solution of

$$\hat{L}\psi(x) = 0 \qquad (1)$$

where $\hat{L}$ is a linear differential operator, is written down in the form

$$\psi(x) = \int_{k_1}^{k_2} \alpha(k)\, e^{F(k,x)}\, dk, \qquad (2)$$

where $\alpha(k)$ and $F(k,x)$ are the required functions. Substitution of Eq.(2) into Eq.(1) gives

$$\hat{L}\psi(x) = \int_{k_1}^{k_2} \alpha(k)\, \hat{\Lambda}\left(\frac{\partial F}{\partial x}\right) e^{F(k,x)}\, dk, \qquad (3)$$

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Application of the Perfect Differential Method to the Solution of Quantum Mechanical Problems

where $\hat{\Lambda}$ is a certain linear operation on $\partial F/\partial x$. $\hat{L}$ The order of this operation is lower by one than the order of $\hat{L}$. Next, the following condition is introduced

$$\alpha(k)\,\hat{\Lambda}\left(\frac{\partial F}{\partial x}\right) e^{F(k,x)} = \frac{\partial}{\partial k}\left\{\alpha(k) e^{F(k,x)}\right\}, \qquad (4)$$

and when this is substituted into Eq.(3) the final result is

$$\hat{L}\psi(x) = \alpha(k)\, e^{F(k,x)} \Big|_{k_1}^{k_2} \qquad (5)$$

If k_1 and k_2 are chosen so that the following equation is satisfied

$$\alpha(k_2)\, e^{F(k_2,x)} = \alpha(k_1) e^{F(k_1,x)} \qquad (6)$$

then the equation $\hat{L}\psi = 0$ will be satisfied by the solution given by Eq. (2) with the above limits. The function αe^{F} is

S/139/60/000/004/003/033
E032/E514

Application of the Perfect Differential Method to the Solution of Quantum Mechanical Problems

given by $\alpha(k)ke^{F(k,x)} = c \exp\left\{ \int_{x_o}^{x} u(k,\xi)\, d\xi + \int_{k_o}^{k} \hat{\Lambda}(u)\Big|_{x=x_o} dk \right\}$, (7)

where c, x_o and k_o are constants and $u = \partial F/\partial x$ is the solution of the nonlinear differential equation

$$\frac{\partial u}{\partial k} - \frac{\partial}{\partial x}\left[\hat{\Lambda}(u)\right] = 0. \quad (8)$$

The present paper is concerned with a modification of this method so that it can be used to solve the following wave equation:

$$\hat{L}\psi(x) = \frac{d^2\psi}{dx^2} + \left[\varepsilon - v(x)\right]\psi = 0. \quad (9)$$

It is required to determine the values of the parameter ε for which there are solutions satisfying either $\psi(|x| \to \infty) \to 0$ or a cyclic condition. If the above method of solution is used in this

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Application of the Perfect Differential Method to the Solution of Quantum Mechanical Problems

case, then the left-hand side of Eq.(9) will be equal to zero provided the limits of integration k_1 and k_2 are determined from Eq.(6), i.e. Eq.(2) will be a solution of Eq.(9) for any value of ε. On the other hand, the method must be modified if it is required to determine the proper functions and the corresponding values of the parameter ε. The solution of Eq.(9) is sought in the form of

$$\psi(x) = \int a(k) e^{F(k,x)} dk \qquad (10)$$

and the appropriate conditions for the integration limits k_1 and k_2 are obtained. The method is illustrated with the example of the wave equation for a free particle and the linear harmonic oscillator. In this modified form the method involves the solution of

$$\frac{\partial u}{\partial k} - \frac{\partial^2 u}{\partial x^2} - 2u \frac{\partial u}{\partial x} + \frac{\partial v}{\partial x} = 0, \qquad (40)$$

rather than Eq.(9). There are 2 Soviet references.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet imeni A.M. Gor'kogo (Ural State University imeni A.M. Gor'kiy)

SUBMITTED: July 6, 1959

Card 4/4

S/126/61/011/002/001/025
E032/E314

AUTHORS: Masharov, S.I. and Rezanov, A.I.

TITLE: Electrical Resistance and Defect Formation Energy

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol. 11, No. 2, pp. 181 - 185

TEXT: It is stated that there is a discrepancy between theory and experiment when the effect of lattice defects on the electrical properties of metals is taken into account. The present authors describe an attempt to obtain a better agreement. A relation is established between the resistance due to defects and the energy necessary for the formation of these defects. The discussion begins with a consideration of the metal at a sufficiently low temperature for all effects associated with thermal motion to be ignored. In the initial state (metal without defects), the system of nuclei at rest is characterised by a uniform spatial distribution with a density ν_o. The system of electrons is also spatially homogeneous and their distribution over the various states

Electrical Resistance ....

is described by a function $f_o(v)$, e.g. the Fermi function. The internal field is assumed to be absent ($E_o = 0$) . When the defects are present the spatial distribution of the nuclei is described by a given function $\rho(r)$, which is such that

$$\rho(r) = \rho_o + \rho_1(r) \qquad (1)$$

where $\rho_1(r)$ are subject to the following limitations

$$\rho_1(r) \ll \rho_0; \qquad (2)$$

$$\rho_1(r) \to 0; \quad |r| \to \infty; \qquad (3)$$

$$\int \rho_1(r)\,(dr) = 0. \qquad (4) .$$

The system of electrons in the metal with defects is described by a distribution function $f(r, v)$, which satisfies the equations

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Electrical Resistance ....

$$(v\nabla_r)f + \frac{e}{m}(E\nabla_v)f = 0; \quad (6)$$

$$\operatorname{div} E = 4\pi e\left\{Z\rho(r) - \int f(r, v)\,(dv)\right\}. \quad (7)$$

Bearing in mind Eq. (2), the function f can be found by the method of successive approximations, using the expansion

$$f(r, v) = f_0(v) + f_1(r, v) + f_2(r, v) + \ldots \quad (8).$$

It can then be shown from Eqs. (6) and (7) that

$$f_1(r, v) = Za(v)\int \frac{\rho_1(q)}{q^2 + q_0^2}\exp(iqr)\,(dq), \quad (11)$$

where

$$a(v) = \frac{4\pi e^2}{m}\frac{1}{v}f_0'; \quad q_0^2 = \int a(v)\,(dv). \quad (12)$$

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and $\rho_1(q)$ is the Fourier amplitude of the function $\rho_1(r)$. The potential of the internal field $\varphi_1(r)$ can be shown to be given by:

$$\varphi_1(r) = 4\pi eZ \int \frac{\rho_1(q)}{q^2 + q_0^2} \exp(iqr)(dq). \qquad (13)$$

For evaluating this potential it turned out to be possible to abandon the usual assumption that the presence of defects has no effect on the form of the potential functions of isolated atoms. Under this assumption, φ_1 is found from:

$$\varphi_1(r) = \sum_n V(r - R_n - \delta R_n) - \sum_n V(r - R_n). \qquad (14)$$

where R_n is the radius vector of the n-th ion in the ideal lattice,
δR_n is the displacement vector for the n-th ion

Electrical Resistance ....

and V is the potential function for the ion, i.e. for the nucleus and the surrounding electronic cloud. V is usually chosen to be in the form of a spherically symmetric Coulomb potential. However, this assumption cannot be justified in the case of ions in the neighbourhood of vacancies, interstitial atoms, etc. or in the neighbourhood of dislocations, where the electronic clouds are subjected to an asymmetric effect due to their neighbours. Calculation of $\varphi_1(r)$ on the basis of Eq. (14) leads to a formula analogous to Eq. (13), except that q_o is replaced by the screening constant q_{scr}. The difference ($q_o \neq q_{scr}$, in general) is apparently due to the fact that changes in the electronic density are not taken into account in Eq. (14). Finally, the solution for f_2 can be found from Eqs. (6) and (7) and is

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Electrical Resistance ....

$$f_2(r, v) = Z^2 b(v) \int \frac{(q^2 + Q^2(v))\, \rho_1(q')\, \rho_1(q - q') \exp(iqr)}{(q^2 + q_0^2)(q'^2 + q_0^2)[(q - q')^2 + q_0^2]} (dq)(dq'), \quad (17)$$

где

$$b(v) = \frac{4\pi e^2}{m} \frac{1}{v} a'(v); \quad Q^2(v) = q_0^2 - \frac{a(v)}{b(v)} \int b(v)(dv). \quad (18)$$

Eqs. (17), (18) on page 4/9

This theory is then used to compute the electrical resistance associated with the scattering of the conduction electrons on the defects. This is given by

$$R = \frac{m v_\zeta}{e^2 n} \ell^{-1} \quad (19)$$

where v_ζ is the velocity corresponding to the limiting Fermi energy, n is the number of conduction electrons per unit of volume and ℓ is the mean free path for interactions

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with the defects. Experimental results for the residual resistance and the resistance of plastically deformed metals have not supplied any evidence for the existence of anisotropy in R . It may therefore be considered that the Fourier amplitude of the potential depends only on |q| . Under this assumption, the mean free path is given by

$$l^{-1} = 16\pi^2 \left(\frac{dK}{dE}\right)_\zeta K_\zeta^2 \int_0^\pi B(K,K')(1-\cos\vartheta)\sin\vartheta d\vartheta. \qquad (20)$$

where

$$B(K,K') = |(K'|c\varphi_1|K)|^2 = \left|\int \exp[i(K-K')r]\, e\varphi_1(r)\,(dr)\right|^2 =$$
$$= (4\pi e^2 Z)^2 \frac{|p_1(x)|^2}{x^2+q_0^2}; \quad x = K'-K; \qquad (21)$$
$$x^2 = 2K^2(1-\cos\vartheta); \quad |K'| = |K|.$$

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Electrical Resistance ....

Thus, the resistance R is found to be proportional to

$$F(\varkappa) = \frac{|\varphi_1(\varkappa)|^2}{\varkappa^2 + q_0^2} \qquad (22) .$$

The defect-formation energy can be written down as the difference between the internal energy of the system with and without the defects

$$W = \int \left\{ \frac{m}{2} \int v^2 f \, (dv) + \frac{E^2}{8\pi} - \frac{m}{2} \int v^2 f_0 (dv) \right\} (dr). \qquad (23) .$$

Substituting $f = f_o + f_1 + f_2$ and $E = E_1 = -\nabla \varphi_1$, i.e. computing W up to second-order terms, one finds that

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Electrical Resistance ....

$$W = 2\pi e^2 Z^2 \int \frac{q^2 + Q_0^2}{(q^2 + q_0^2)^2} |\rho_1(q)|^2 (dq). \qquad (24)$$

where

$$Q_0^2 = \frac{m}{e^2}\left\{\int_0^{\tilde{} } v^4 b(v)\, dv - \frac{p_0^2}{q_0^2}\int_0^{\tilde{} } v^4 a(v)\, dv\right\}; \quad p_0^2 = \frac{4\pi e^2}{m}\int \frac{1}{v} a'(v)\, dv. \qquad (25)$$

In computing W, use is made of the condition $\rho_1(q)_{q=0} = 0$ which follows from Eq. (4). It follows from Eq. (24) that the function F in Eq. (22), which enters into the formula for R, can be written down in the form:

$$F(q) = \frac{|\rho_1(q)|^2}{q^2 + q_0^2} = \frac{W}{2\pi e^2 Z^2}\chi(q). \qquad (26)$$

where the unknown function $\chi(q)$ satisfies the condition:

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Electrical Resistance ....

$$4\pi \int_0^{\infty} q^2 \frac{q^2 + Q_0^2}{q^2 + q_0^2} \chi(q)\, dq = 1 \qquad (27)$$

Using the substitution

$$\beta(K_c) = \int_0^{\pi} \chi(K_c v)(1 - \cos\vartheta) \sin\vartheta d\vartheta, \qquad (28)$$

and Eqs. (19), (20), (21) and (26), the final expression for R is found to be

$$R = (16\pi^2)^2 \frac{m v_c}{2n} \left(\frac{dK}{dE}\right)_c K_c^2 \beta(K_c) W. \qquad (29)$$

Acknowledgments are expressed to F.S. Zyryanov for valuable advice. There are 9 references: 5 Soviet and 4 non-Soviet.

Card 10/11

S/126/61/011/002/001/025
E032/E314

Electrical Resistance . . .

AS30CIATION: Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo (Ural State University im. A.M. Gor'kiy)

SUBMITTED: June 20, 1960

Card 11/11

REZANOV, A.I.

Use of the method of the total differential in solving the wave equation for a particle in a homogeneous field. Mat.zap.Ural.mat.ob-va UrGu 3 no.2:94-96 '62. (MIRA 19:1)

MAL'GINOVA, S.D.; REZANOV, A.I.

Electron heat conductivity of diluted solid solutions. Fiz. met. i metalloved. 20 no.4:622-623 O '65. (MIRA 18:11)

1. Bashkirskiy gosudarstvennyy universitet imeni 40-letiya Oktyabrya.

REZANOV, A.I.

Effect of the anharmonicity of oscillations on the heat capacity of a solid solution at high temperatures. Fiz. met. i metalloved. 19 no.6: 813-819 Je '65. (MIRA 18:7)

1. Bashkirskiy gosudarstvennyy universitet imeni 40-letiya Oktyabrya.

S/044/63/000/002/024/050
A060/A126

AUTHOR: Rezanov, A.I.

TITLE: Solution of the wave equation for a particle in a homogeneous field by the method of total differentials

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1963, 49, abstract 2B220 (Matem. zap. Ural'skiy un-t, 1962, v. 3, no. 2, 94 - 96)

TEXT: The Schroedinger equation for the case of a particle in a homogeneous force field with intensity

$$P = -\frac{dv}{dt} = \text{const}$$

(where v (*) is the potential energy of the particle) has the form:

$$\frac{d^2\psi}{dx^2} + \frac{2m}{h^2}(E + Px)\psi = 0 . \qquad (1)$$

Rewriting in terms of the dimensionless variable ξ

$$\xi = \left(x + \frac{E}{P}\right)\left(\frac{2mP}{h^2}\right)^{3/2}$$

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S/044/63/000/002/024/050
A060/A126

Solution of the wave equation for a particle ....

the author transforms equation (1) to the form

$$\hat{L}\Psi(\xi) = \Psi'' + \xi\Psi = 0. \qquad (2)$$

Thereupon the author constructs the solution of equation (2) by the method of total differentials.

[Abstracter's note: Complete translation]

Card 2/2

REZANOV, A.I.; MASHAROV, S.I.

Theory of the heat capacity of weak substitutional solid solutions at low temperatures. Fiz.met.i metalloved. 13 no.1:3-9 Ja '62. (MIRA 15:3)

1. Ural'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo.
(Solutions, Solid---Thermal properties)
(Metals at low temperature)

GROH, J.; CERNIK, F.; REZAC, V.; CHROBAK, L.; NERAD, V.

Sulfhemoglobinemia. Cas. Lek. Cesk. 101 no.5:151-153 2 F '62.

1. I interni klinika lekarske fakulty KU v Hradci Kralove, prednosta prof. DrSc. MUDr. Jan Rehor. Klinika interni propedeutiky lekarske fakulty KU v Hradci Kralove, prednosta doc. MUDr. Frantisek Cernik.

(HEART DEFECTS CONGENITAL diagn)
(ACETOPHENETIDIN toxicol)
(SULFONAMIDES toxicol)

FILIPOVIC, Z.; REZAKOVIC, Dz.

Clinical contribution to strongyloidiasis. Med. arh. 15 no.5: 21-27 S-O '61.

]. Interna klinika Medicinskog fakulteta u Sarajevu -- II odjeljenje (Sef: prof. dr Miron Simic).
(STRONGYLOIDIASIS case reports)

REZAKOVIC, Dzemal, dr.; JEFTIC, Zivojin, doc., dr.; OMEROVIC, Vesna H., dr.

Contribution to the collagen etiology to Recklinghausen's disease. (On a case of buccopharyngeal neurofibromatosis with mitral stenosis. Med. arh. 16 no.2:31-37 '62.

1. Interna klinika II, Medicinskog fakulteta u Sarajevu (Sef: prof. dr Miron Simic)

(NEUROFIBROMATOSIS case reports)
(MOUTH neopl) (PHARYNX neopl)
(MITRAL STENOSIS case reports)

MASHAROV, S.I.; REZANOV, A.I.

Electric resistance and the energy of formation of defects. Fiz. met. i metalloved. 11 no. 2:181-185 F '61. (MIRA 14:5)

1. Ural'skiy gossudarstvennyy universitet im. A.M. Gor'kogo.
(Crystal lattices--Defects)

J. of the Inst. of Metals
Feb. 1954
Properties of Metals

(2) 1KD
Phys

Theory of Electrical Conductivity of Ferromagnetic Metals at Low Temperatures. A. N. Rezanov. (*Doklady Akad. Nauk S.S.S.R.*, 1953, 92, (5), 935–937).—[In Russian]. Math. R. deduces the following expressions for the "ferromagnonic" and "phononic" parts (σ_{fm} and σ_{ph}, resp.) of the elect. conductivity (cf. Vonsovsky, *Zhur. Eksper. Teoret. Fiziki*, 1948, 18, 190): $\sigma_{fm} = \frac{1}{\rho_{fm}} = \frac{16\pi n\Omega_0 e^2\hbar}{amI_{sd}^2}\left(\frac{\theta_c}{T}\right)^2\frac{\xi_0\zeta_0}{F_2}$ and $\sigma_{ph} = \frac{1}{\rho_{ph}} = \frac{4n\Omega_0 e^2MK\theta_D}{9\pi^2m\hbar C^2}\left(\frac{\theta_D}{T}\right)^5\frac{\xi_0\zeta_0}{F_5}$. In these expressions, n is the number of electrons in unit vol., Ω_0 the vol. of the unit cell, θ_c the Curie temp., K the Boltzmann const., ξ_0 and ζ_0 the limiting impulse and energy of the fully-degenerate electron gas, a the distance between neighbouring atoms, I_{sd} the exchange integral of s and d electrons, F the electric field strength ($F_2 = 7{\cdot}2$; $F_5 = 124{\cdot}4$), M the mass of an atom, θ_D the Debye temp., and C the mean energy of an electron in the periodic field of the ions of the lattice. From these equations follows the ratio of ferromagnonic and phononic parts of resistivity: $\frac{\rho_{fm}}{\rho_{ph}} = 5{\cdot}10^{-5}\frac{Ka^2MI_{sd}^2\theta_D^6}{\hbar^3C^2\theta_c^3T^2}$. For Fe, substituting the values $M = 56{\cdot}1840\times10^{-27}$ g., $\theta_D = 420°$ K., $a = 10^{-8}$ cm., then $\frac{\rho_{fm}}{\rho_{ph}} \cong 10\left(\frac{I_{sd}}{C}\right)^2\frac{1}{T^2}$. With I_{sd} of the order of 10^{-13}, then at temp. of ~1° K. ρ_{fm} will be ~10% of ρ_{ph}. At superlow temp. ρ_{fm} must form the principal part of the elect. resistance of Fe.—G. V. E. T.

6/23/54

FAYERMAN, A.I., kand.ekonom.nauk; REZANOV, A.N., inzh.

Economic analysis of alternate ways for the prevention of welding deformations. Svar. proizv. no.9:17-20 S '61. (MIRA 14:8)

(Welding—Accounting)
(Thermal stresses)

REZANOV, I.A.: MIRONOV, S.I., akademik.

Structural location of the Lesser Balkhan Range and its connection with Kopet Dakh. Dokl.AN SSSR 92 no.1:143-145 S '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Mironov). 2. Geofizicheskiy institut Akademii nauk SSSR (for Rezanov).
(Lesser Balkhan Range--Geology) (Geology--Lesser Balkhan Range)
(Kopet Dakh--Geology) (Geology--Kopet Dakh)

FD 351

USSR/Geophysics - Seismogeological characteristics

Card 1/1

Author : Petrushevskiy, B. A., Rezanov, I. A., Rastvorova, V. A.

Title : Seismogeological characteristics of western Turkmenia

Periodical : Izv. AN SSSR, Ser. geofiz. 2, 160-183, Mar/Apr 1954

Abstract : Consider the structure of western Turkmenia and its seismicity, and attempt to explain the various seismic interrelationships. Arrive at the conclusion that the west Kopet-Dag is characterized less by high degree of seismicity than the regions adjacent to it on the west and east. Twenty-five references, all Soviet, including A. A. Shreyder, "Basic results of the general geophysical survey of the western part of Central Asia," Prikladnaya geofizika (Applied Geophysics), No 4, 1948.

Institution : Geophysics Institute, Acad Sci USSR

Submitted : March 11, 1953

Rezanov I. N.

PETRUSHEVSKIY, B.A.; REZANOV, I.A.; RASTVOROVA, V.A.; LEONOV, N.N.

Tectonics of western Turkmenia. Biul.MOIP. Otd.geol. 29 no.4:3-35 Jl-Ag '54. (MLRA 7:9)
(Turkmenistan--Geology, Structural) (Geology, Structural--Turkmenistan)

REZANOV, I.A.

USSR/Geophysics - Earthquakes FD-2776

Card 1/2 Pub 45 - 10/13

Author : Rezanov, I. A.

Title : Concerning the Kazandzhik earthquake of 1946

Periodical : Izv. AN SSSR, Ser. geofiz., Sep-Oct 1955, 475-482

Abstract : At night from 4 to 5 November 1946, between 0:45 to 0:55 the western part of Turkmen SSR was seized by a strong earthquake. It was propagated over a considerable area - from Krasnovodsk to Ashkhabad. The earthquake was realized with great strength in the rayon Kazandzhik, which gave its name to the earthquake. The author discusses the history of the problem, the effect of the earthquake on oral communications and the character of the disruptions, the effect on the earth's surface, the map of the isoseists, the geological conditions surrounding the occurrence of the earthquake, etc. The author acknowledges the interest and assistance of: V. S. Kravtsov, V. T. Arkhangel'skiy, N. P. Luppov, G. P. Gorshkov, S. V. Medvedev, and B. A. Petrushevskiy. Nine references: e.g. B. A. Petrushevskiy, I. A. Rezanov, V. A. Rastvorova, N. N. Leonov, "Tectonics of Western Turkmenia," BMOIP, No 4, 1954; N. P. Luppov, "Principal outlines of the geological structure of the Bol'shoy Balkhan Region," Izvestiya AN

FD-2776

Card 2/2

Abstract : Turkm. SSR, No 4, 1952; L. N. Leont'yev, "the character of the tectonic stress of the Kopet-dag and Kara-Kumy," BMOIP, No 5, 1953.

Institution : Geophysical Institute, Academy of Sciences USSR

Submitted : August 13, 1954

15-1957-12-17006

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 12, p 44 (USSR)

AUTHORS: Popov, V. V., Rezanov, I. A.

TITLE: Neotectonics in Tyan'-Shan' and Their Relation to Its Seismic Activity (O neotektonike Tyan'-Shanya v svyazi s yego seysmichnost'yu)

PERIODICAL: Vopr. geologii Azii, Nr 2, Moscow, Izd-vo AN SSSR, 1955, pp 408-437

ABSTRACT: Bibliographical entry

Card 1/1

Age and types of folding in the Kopet Dag meganticlinorium.
Sov. geol. no. 54 53-83 '56. (MLRA 10:9)
(Kopet Dag--Folds (Geology))

MEZA..OV, I.A. Cand Geol-Min Sci (diss) "Tectonicity and seismicity of the Turkmeno-Khorasansk Mountains," Mos, 1957. 16 pp 20 cm.

(Inst ~~Geophys of USSR~~ Acad Sci USSR) 100 copies

(KL, 11-57, 97)

PETANT, T. A.

"Tectonics and Seismism of the Turkmenian Choran Mountains."

dissertation defended for the degree of [redacted] of Geological-Mineralogical Sciences, at the Inst. for Geology. (Jan-Jul 1957)

Defense of Dissertations
Sect. of Geological-Geographical Sci.
Vest. AN SSSR, 1957, v. 27, no. 12, pp. 113-115

AUTHOR: Rezanov, I.A. 11-58-3-5/14

TITLE: The Tectonic Map of the Turkmen - Khorassar Mountains (Tektonicheskaya karta Turkmeno - Khorassanskikh Gor)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1958, # 3, pp 58-77 (USSR)

ABSTRACT: This article describes the tectonic map of the Turkmen-Khorassan mountains compiled by the author by separating the structural units of differing age of depressions which were subsequently replaced by elevations. This map includes the description of the whole system, though only the northern part of it belongs to the USSR. A correct understanding of the tectonic structure of the Soviet part of the system necessitates an abbreviated survey of the whole system. In this compiliation, the author used numerous geologic works on the same subject which he cites at the end of the article. The map includes the whole Turkmen-Khorassan folded system and some of the adjacent structural units the ante-Kopetdag (Predkopetdagskiy) frontal depression, the Transcaspian (Zakaspiyskaya) depression and the great Balkhan-Kubadag

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(Bol'shebalkhano-Kubadagskogo) anticlinorium.

The author distinguishes between the following tectonic zones, characterized by a different course of their development and by a different morphology of their folded structure:

I. The zone of large depressions at the beginning of the Alpine cycle, permanently elevated since the Cretaceous period (axial parts of El'burs and Aladag-Binalud megaanticlinoria).

During the Jurassic period large depressions were formed. During the beginning of the Lower Cretaceous period, elevations and fold formations took place, in the process of which the present structure was established.

The central part of the El'burs megaanticlinorium comprises: North El'burs and Demavend anticlinoria; Lar (Larskiy) synclinorium (in the south); the volcano Demavend, the cone of which consists of andesites.

The Anti-El'burs anticlinorium is located to the south of El'burs ridge and is separated from it by a valley filled with sediments of the Quarternary period (Teheran occupies the westerly part of it). This anticlinorium, composed of Tertiary, Cretaceous and Jurassic rocks, replaced a big Eocene and Miocene depression. As a whole this part of megaanticli-

norium does not posses a single big anticlinal structure as is found in the Great Caucasus.

The eastern El'burs, as far as could be determined from incomplete information , has only one large anticlinorium, composed of Jurassic rocks, with Paleozoic rocks appearing on its north-westerly wing.

The Aladag-Binalud megaanticlinorium is as large as that of the El'burs. The western part is composed of many ridges, the largest on which is Ala-Dag. The eastern part is situated in the limits of the Binalud ridge (Kukh-i-Mirab). In the little explored Aladag part of this structure, 3 large anticlinoria can be named: 1) the Mul'gazar (Mul'gazarskiy), situated from the upper reaches of Gorgan to those of Budzhnurd is composed of many large anticlines, the central parts of which are formed of Paleozoic rocks and the wings of rocks of the Upper Jurassic, Cretaceous and Eocene periods. Fan-like folds and fold carpets, interrupted by breaks, are often found there. 2) To the south is the proper Ala-Dag anticlinorium, occupying the central section of the western part of the Aladag-Binalud megaanticlinorium. 3) Still more to the south is the anticlinorium comprising the Gazan and Saluk ridges. According to the map of Clapp it is largely formed

of Paleozoic rocks. 4) To the south of Ala- Dag is a region where rocks of the Upper Crestaceous and Eocene periods were developed. Possibly it is the zone of large Upper Cretaceous and Paleogenetic depressions, placed on the southern wing of Aladag-Binalud megaanticlinorium. More intensive explorations have been carried out in 5) the western Binalud anticlinorium and 6) the eastern Binalud anticlinorium than of the Ala-Dag anticlinorium, but their complex structure has not yet been classified conclusively. Among the geologists who worked here, was the Swiss geologist E. Bonnar [ref. 37], who classified some of the rocks and schists of different ages and epochs.

II. Zones of large depressions in the Lower Cretaceous period, permanently elevated since the Upper Cretaceous period (South Kopet-Dag anticlinorium).

To the north of El'burs-Aladag-Binalud arc is situated the large Kopet-Dag megaanticlinorium. It differs from the former, in that its largest depressions, reaching 3,500 m, occured in the Lower Cretaceous period, when the Aladag-Binalud system was already stabilized.

Card 4/12 During the Upper Cretaceous period further changes occured:

The greatest part of Kopet-Dag where the maximal depressions took place, was elevated, and its zones of large Upper Cretaceous depressions to the north were displaced by the parts of Lower Cretaceous depressions.

The Kopet-Dag megaanticlinorium can be divided into 2 tectonic zones - the South-Kopet-Dag anticlinorium, and the folded zones of the south western and both eastern wings of the megaanticlinorium. On the largest part of the Kopet-Dag anticlinorium, three to six anticlinal ranges can be traced, each range composed of a row of anticlinal folds usually ended by a pericline and formed by limestones of the neocomian stage and, in some places, of the Upper Jurassic. On the western end of the anticlinorium, west of meridian 57°, the character of folding changes radically, the folds become less steep. Only the Kheyrabad-Gaudan (Kheyrabad-Gaudanskaya) asymmetrical anticline is within the boundaries of the USSR and extends along the frontier for approximately 150 km. Its southern wing is sloping and the northern is very steep. To the north is a group of brachy-anticlinal folds composed of Neocomian rocks, separated from the Kheyrabad-Gaudan anticline by a number of sloping synclines, filled by rocks of upper layers of the Lower and partly by the Upper Cretaceous periods.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001444810001-8"

They are the brachy-anticlines of the Murab-Kerik, Uli-Topa and Markou ridges. To the north-west from South Kopet-Dag anticlinorium, is located the complex folded zone of the north-westerly wing of the Kopet-Dag megaanticlinorium. An asymmetrical anticline of Peredovoy ridge (Peredovoy khrebet) extends along the northern limits of Kopet-Dag. It is composed of two folds, which extend in a north-westerly direction. On the south-western continuation of the Peredovoy anticline is located the so-called Archman-Nukhur "tectonic junction" (Archman-Nukhurskiy "tektonicheskiy uzel"), which must be considered as an easterly termination of the whole tectonic zone of the West Kopet-Dag. The Eyshem (Eyshemskaya) and Oboy (Oboyskaya) anticlines, as well as the south westerly the Danatin (Danatinskaya) anticline, are divided from the Peredovoy anticline, whereby Malyy Balkhan - a large asymmetric brachy-anticlinal fold with a steep north-western wing, - is a geologic formation located on the western fringe. Between these anticlines are located the large, flat Danatin (Danatinskaya, Uzek-Dag (Uzek-Dagskaya), and Khodzha-Kaly (Khodzha-Kalinskaya) synclines composed of Neogene rocks. Along the north western boundary of the South Kopet-Dag anti-

 cline and from the Khodzha-Kaly region, a large tectonic zone

called the Messerian-Khodzha-Kaly (Messerian-Khodzhakalinskaya) extends in a south-westerly direction. Also located here is the Aladag-Kulmach (Aladag-Kulmachskaya) zone of sinclinal ridges, composed of Neogene rocks.

All the enumerated structures of the Western Kopet-Dag were formed in the Pre-Akchagyl (Predakchagyl'skiy) period. However, within the boundaries of Western Kopet-Dag is the Ezzet-Karagez (Ezzet-Karagezskaya) tectonic zone, where the Post-Akchagylsk fold had completely transformed the more ancient structures. The Shakhman (Shakhmanskiy) depression is a direct continuation southwest of the Ezzet-Karagez zone.

In the east (east of Ashkhabad) and north of the above mentioned structures of the Southern Kopet-Dag anticlinorium, is situated the folded zone of north-eastern wing of the Kopet-Dag megaanticlinorium. Its eastern part was called a North Kopet-Dag (Severo-Kopetdagskaya) folded zone. This zone extends even farther north and also includes the Gyaur (Gyaurskaya) anticline. Together with the Zirakev (Zirakevskaya) anticline it extends from north-west to south-east for 75 km. The Gyaur anticline represents a large brachy-anticlinal fold, it is asymmetric with the inversed north wing, by which the overthrust of neogen mass on Paleogen could be

seen. To the south of the Gyaur and Zirakev anticlines is situated the large brachy anticline of the Ala-Dag ridge. Farther to the east along the boundary of the USSR extends the anticlinal ridge of the East Kopet-Dag and to the south of the latter - the large Kelyatin (Kelyatinskaya) sincline.

III. To the north of the Kopet-Dag megaanticlinorium is situated a frontal depression. The Pre-Kopet-Dag (Predkopetdagskiy) depression consists of 3 saggings: the largest part of the depression is occupied by the Ashkhabad (Ashkhabadskaya Sag; to the west it is the much smaller Kazandzhik (Kazandzhikskaya) Sag, and the last and less defined is the Kaakhk (Kaakhkinskaya) Sag. To the east, in the Dushak region, the last sag terminates centroclinally. Thus on the east end of the Kopet-Dag megaanticlinorium the frontal depression is absent and the megaanticlinorium is contiguous to the plateau. To the north of the Elburs megaanticlinorium is situated a zone of large depressions of the Upper-Tertiary and Quarterny Periods. By its structural position between a young folded region and a large central plateau this zone can be considered as a frontal depression. Electric prospecting operations showed the synclinal struc-

ture of the Gorgan depression to be of an asymmetric shape, the south steep board of which extends along the foothills of El'burs.

IV. Between the Aladag-Binalud and the Kopet-Dag megaanticlinoria is situated a synclinal zone, the largest part, which is occupied by Kuchan-Meshkhed (Kuchano-Meshkhedskiy) depression filled by alluvial deposits of the rivers Keshefruda and Atreka. This depression is of relatively recent Pliocene origin and was developed as a result of sinking of parts of the Aladag-Binalud and Kopet-Dag megaanticlinoria.

V. The notherly part of the Transcaspian Depression is occupied by the Pribalkhan (Pribalkhanskaya) depression which was the largest depression during the whole Mesozoic and Kainozoic Eras. The thickness of the Kainozoic layer in the two saggings - Kelkor (Kelkorskaya) and Kyzyl-Kum (Kyzyl-Kumskaya) - which occupy this depression ranges between 6 to 7 km. The mesozoic layer is even thicker, as it is located in its western centrocline at a depth of 14 km.

VI. To the north-west of the Kopet-Dag megaanticlinorium is situated the isolated ridge of Bol'shoy Balkhan, which, together

with the mountains in the region of Krasnovodsk, forms the single large anticlinal structure of the Bol'shebalkhano-Kubadag anticlinorium. The Bol'shoy Balkhan is a large (30 to 40 km wide) elevated anticlinal fold over 100 km long. Its south wing (angle of slope 10-20°) is composed of limestones and sandstones of the Neocomian and Malm stages. The northern wing is much shorter and steeply inclined (60 to 80°) and in some places even vertical. In the east, the Bol'shoy Balkhan is terminated periclinally. The sinking of rocks occurs in the west, in the largest part of the anticline. These sinking rocks from the central part and the southern wing of the anticline. Its northern wing reaches Belek. After an interruption, the Mesozoical formations are found again near Krasnovodsk. Here, on the surface, is found the northern wing and the center of another anticlinal structure - the Kuba-Dag. The author cites the studies of numerous geologists to support his theory that both the Bol'shoy Balkhan and the Kuba-Dag belong to the same anticlinal system.

VII. The large zone of the Central Iran Mountain Range is situated to the south of the Turkmen-Khorassan mountains. Little is known about the time the foundation of this mountain range

was formed, but it can be assumed that this region was elevated during the Alpine stage of development and only during times of large transgressions was it submerged. The intensive depressions started only in the Myocene Period. The formation of anticlinal structures also started during this period. In the Transcaspian depression, especially in deeply sunken parts, some structural formations can be distinguished, as for instance, the Shakhman Neogene system, which can be classified as a frontal depression, developed to the north-west of the now sunken folds of the Messerian-Khodzhakalin zone. Furthermore, 3 most important tectonic units compose the Transcaspian depression: the Pribalkhan Depression, the ancient Keymir-Chikishlyar (Keymiro-Chikishlyarskiy) deeply sunken range, and the North-El'burs frontal depression. In the upper strata of the Keymir-Chikishlyar region are folds very dissimilar to those of the Pribalkhan region. They are large sloping brachy-anticlines divided by equally large synclines and form a large tectonic zone in a meridional direction.

VIII. Plateau The Tuar-Kyr (Tuar-Kyrskaya)megaanticline . Two large and very sloping megaanticlines are situated to the north of the Turkmen-Khorassan mountains and of the Bol'shoy Balkhan: the Tuar-Kyr, and the smaller Goklenkuiusin (Goklen-

kuyusinskaya) megaanticlines. The presence of intensely dislocated foundations of the Pre-Jurassic Period in the Tuar-Kyr region and of sloping covering stratum indicate that a young Epipaleozoic plateau is situated to the north of the Alpine geosynclinal area. This plateau can be considered as a part of the Scythian plateau. There is one map, 35 Soviet, 1 German, 1 Swiss, 2 French and 2 American references.

ASSOCIATION: Institut Fiziki Zemli AN SSSR (Institute of Physics of the Earth of the USSR Academy of Sciences)

SUBMITTED: November 20, 1957.

AVAILABLE: Library of Congress

SOV-49-58-6-2/12

AUTHOR: Rezanov, I. A.

TITLE: Origin and Geological Conditions of the Ashkhabad Earthquake in 1948 (Ashkhabadskoye zemletryaseniye 1948 g. i geologicheskiye usloviya ego vozniknoveniya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 6, pp 713-728 (USSR)

ABSTRACT: There was an earthquake in the Ashkhabad area on October 6, 1948. Its force was found to be 9 balls at the epicentre. The earthquake produced a great number of cracks in the earth, 0.5 to 3 m wide and up to several hundred metres long with vertical amplitudes up to 1 m. There were muddy "volcanoes" of 3-10 m diameter and 0.5-0.7 m height. Water supply was investigated soon after the earthquake and it was found that the discharge of surface sources decreased rapidly although water increase of up to 500% in some places was observed in the deeper layers. These phenomena occurred mainly along a line running through Ashkhabad parallel to the southern range of mountains. It received the name of "thermal line"

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Origin and Geological Conditions of the Ashkhabad Earthquake in 1948.

(Fig.1). The epicentre was situated between 38°03'N, 58°01'E and 37°75'N 58°65'E. The Ashkhabad seismographs started working normally some fortnight after the earthquake showing a gradual but very slow damping of the seismic energy (Fig.2). It was estimated that the total energy involved was in the range of 10^{22} ergs (after Guttenberg and Richter formula). It took several years for many Soviet scientists to investigate the geographical and geological conditions of the earthquake. Their work produced very interesting results which are outlined in this article. The geological character of the area was examined very thoroughly (Fig.3). In the extreme South there is a range of high hills (1) of the Jurassic period raised over the Cretaceous rocks. The latter period formed another range of hills further to the North (2). Then, along these hills a long and narrow belt of the Paleogene depressions is situated. It is interrupted in the Ashkhabad area by a belt (5) formed during the Cretaceous era, being later lifted in the Quaternary. Still further to the North there is another belt lying NW-SW and composed of the large depressions of Neogene and Quaternary systems. In various places

Origin and Geological Conditions of the Ashkhabad Earthquake in 1948.

of this area are spread the epicentres of the earthquakes, which can be seen on Fig.3 as black or white circles representing energy from 6-10 balls. An important factor in the geological situation just North of the Ashkhabad area is non-uniformity of its composition. This belt was mainly formed in the Neogene before that of Ashkhabad's which was made of older chalks and the Paleogene depressions with Neogene lying on the top. It should also be noted that the Ashkhabad belt is touching the southern belt of chalk. The investigations after the earthquake showed that there is a Palaeozoic foundation at 10 km deep below the Ashkhabad depression with the massif of chalk reaching a depth of 4000 m. There are embodied in it the layers of sloping anticlinal folds at a depth of 2000 m. This structure is lifted in comparison with the North of the area and forms a kind of terrace. To the North-West of Ashkhabad younger deposits of the first half of Pliocene (Fig.5) are found. They are situated much higher than the Ashkhabad depression and there is evidence that the neighbouring parts of the

Origin and Geological Conditions of the Ashkhabad Earthquake in 1948.

latter were lifted to its present level (7 on Fig.4). There are signs that this lifting is still going on along the anticlinical axes. At the same time, it can be assumed that the Ashkhabad area is being gradually drawn to it. Thus, in the middle of the Quaternary a change occurred: this whole area, sinking before, actually started rising. A detailed history of the Ashkhabad region exposes a very peculiar tectonic situation (Fig.5). It shows that the Ashkhabad epicentric axis divides the two different territories. The Southern one is still lifting since the beginning of the Pliocene, whereas the Northern vast region has been continually sinking without interruption. In the immediate vicinity of Ashkhabad the lifting area extends from the South to the South-West (Fig.5). A better picture is obtained when a cross-section along the line SWW-NEE through Ashkhabad is examined (Fig.7). The terrace formation is clearly seen with the breaks between the two different levels. These are caused by the effect of two forces acting in opposite directions. One of the forces is being impressed by the sinking Palaeozoic foundations to the North-East, and the other is generated by the lifting of the younger formations to the South-West. The points of breakage (circles on Fig.7) coincide very well with the various secon-

Origin and Geological Conditions of the Ashkhabad Earthquake in 1948.

dary centres of the earthquakes. Some measurements were made during the minor earthquakes in this area in 1953. These showed again the centres being formed exactly at the points of breakage between the two zones (Fig.8). A very interesting example proving the theory of lifting the South to South-West area and sinking the North to North-East area, can be drawn from the results of the first and second levelling of the Ashkhabad railway line carried out in 1942 and 1952. These show large changes in the levels on both sides of the town (Fig.9). The reason, then, for the Ashkhabal seismic activities, including earthquakes, of which three major ones are known to have happened during historic times, is an abnormal geological structure. This is characterised by a strong tectonic lift of the Southern areas which probably originated in the course of the last several hundred years. There are 9 figures and 31 Soviet references.

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SOV-49-58-6-2/12

Origin and Geological Conditions of the Ashkhabad Earthquake in 1948.

ASSOCIATION: Akademiya nauk SSSR, Institut Fiziki Zemli
(Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: April 15, 1957.

1 Earthquakes--Geophysical effects 2 Seismographs--Applications

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SOV/26-58-12-29/44

AUTHOR: Rezanov, I.A., Candidate of Geologo-Mineralogical Sciences

TITLE: A River Falling Into Two Oceans (Reka, tekushchaya v dva okeana)

PERIODICAL: Priroda, 1958, Nr 12, p 114 (USSR)

ABSTRACT: V.M. Zavadskiy has given information on the Del'kyu River which flows from the Suntar-Khayata Mountain Ridge in the Northeast of the USSR through a valley of 3 to 4 km bottom width and, after having branched there, into the Okhota River and thus on into the Sea of Okhotsk and into the Kuydusun River and on into the Indigirka River and the North Arctic Ocean. The valley site was visited by the author in 1957, who studied its geological past and attributes the forces that acted there on the earth's crust and brought about the branching of the Del'kyu River, to the last glaciation of Northeast Asia.

ASSOCIATION: Institut fiziki Zemli AN SSSR /Moskva (The Institute of the Physics of the Earth of the AS USSR /Moscow)

Card 1/1

AUTHORS: Petrushevskiy, B. A. and Reganov, E. A. SOV/5-33-1-2/25

TITLE: On the Question of Overthrust Foldings of the West Kopet Dagh (K voprosu o nadvigakh zapadnogo Kopet-Dagha)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody, Otdel geologicheskiy, 1958, Vol 33, Nr 1, pp 7 - 19 (USSR)

ABSTRACT: The authors consider the West Kopet Dagh as an independent tectonic zone in which the fold formation occurred in the pre- and post Akchagyl stage of the Pliocene epoch, whereas in the Central Kopet-Dagh the fold formation occurred in the pre-Miocene epoch. The authors also describe some regions in which the overthrust foldings could be observed along the northern limit of the advanced anticlines of the ridge. A detailed study of these regions showed that these overthrust foldings developed from the underthrust asymmetrical wings of the advanced anticlines in the pre-Akchagyl stage. As each of these foldings shortly disappear, it could be said that each of the investigated overthrusts is connected with a definite anticline. Their occurrence is of

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On the Question of Overthrust Foldings of the East Kopet-Dagh

little importance in the whole structure of the West Kopet-Dag. In the post-Akchagyl stage, the moves of the overthrust foldings were only of local importance. The authors cite the following geologists: I. I. Nikshich, V. N. Ognev; P. I. Kalugin; V. F. Miroshnichenko; I. M. Leont'yev; V. A. Sergeyev; V. S. Kravtsov; P. N. Lecnov and M. I. Sokolov. There are 2 maps, 1 cross-section and 10 Soviet references.

Card 2/2

REZANOV, I.A.; PETRUSHEVSKIY, B.A., otv.red.; KUN, N.R., red.izd-va; ASTROV, A.V., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[Tectonic pattern and seismicity of the Turkmen-Khurasan Ranges] Tektonika i seismichnost' Turkmeno-Khorasanskikh gor. Moskva, Izd-vo Akad.nauk SSSR, 1959. 245 p. (MIRA 12:12)
(Turkmen-Khorasan Ranges--Geology, Structural)
(Turkmen-Khorasan Ranges--Seismic waves)

Rezanov, I.A.

SOV/49-59-10-19/19

AUTHOR: Solov'yev, S. L.

TITLE: Session on Seismology and Tectonics of the Pre-Baikal and the Adjacent Regions

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya 1959, Nr 10, pp 1527-1528 (USSR)

ABSTRACT: The Session took place on the 9 to 17 June 1959. It was convened by the Council on Seismology, Ac. Sc. USSR; the East Siberian Geological Institute, Ac. Sc. USSR, the Irkutsk State University. It was opened by the Chairman of the East Siberian Seismic Department, Ac. Sc. USSR, Professor V. A. Krotov. The following scientists submitted their papers: A. A. Treskov (Seismic Station Irkutsk) - Seismicity of the Pre-Baikal, N. A. Florensov (East Siberian Geological Institute) - Earthquakes Determined from Excavated Rocks, [illegible] Petrushevskiy (Institute of Physics of the Earth, Ac. Sc. USSR) - Geological Development in South Siberia, V. A. ApRodov (Moscow University) - Geomorphology and Seismo-Tectonics of Mongolia, I. A. Rezanov (Institute of Physics of the Earth, Ac. Sc. USSR) - Neo-Tectonics of the Far East, V. M. Danilovich (Irkutsk Institute of

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Mining and Metallurgy) - Morphological Peculiarities of the Pre-Baikal, N. P. Ladokhin (East Siberian Geological Institute) - Tectonic Motions of the Bottom of Gulf Proval, V. P. Solonenko and N. A. Florensova (East Siberian Geological Institute) - Foci of Gobi-Altai Earthquakes, S. V. Puchkov and P. I. Khovanova (Institute of Physics of the Earth, Ac. Sc. USSR) - Results of the Pre-Baikal Seismic Expedition, S. L. Solov'yev (Council on Seismology, Ac. Sc. USSR) - Analysis of the Earthquake Chart of the Pre-Baikal, K. V. Pshennikov (Seismic Station Irkutsk) and A. V. Vvedenskaya (Institute of Physics of the Earth, Ac. Sc. USSR) - Motions in the Foci of Strong Baikal Earthquakes, L.M. Balakina (Institute of Physics of Earth, Ac. Sc. USSR) - Motions in the Foci of Gobi-Altai Earthquakes, A. P. Bulmasov (Irkutsk University) - Chart of Magnetic and Gravitational Anomalies of the Pre-Baikal, Ye. K. Grechishchev (East Siberian Geological Institute) - Costal Motions of the Lake Baikal, L. A. Misharina (Irkutsk University) A. A. Treskov and T. M. Medvedeva

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(Seismic Station, Irkutsk) - Seismo-tectonics of the Pre-Baikal, V. N. Gayskiy (Institute of Seismo-Rigidity of Construction and Seismology Ac. Sc. Tadzik SSR) - Earth's Crust, V. N. [illegible] (Sakhalin Scientific Institute, Sakhalin Branch of Ac. Sc. USSR) - Thickness of the Earth's Crust in the Far East, O. N. Solov'yeva, Ye. F. Savarenskiy and A. P. Lazareva (Institute of Physics of the Earth, Ac. Sc. USSR) - Mean Thickness of the Earth's Crust in the Arctic Sea, V. F. Chernyshev (Seismic Station Petropavlovsk) - Earthquake in Kamchatka on the 4 May 1959, M. G. Arabskov (Institute of Geology, Ac. Sc. Azerbaydzhan SSR) - Fold Formations in Apcheronsk Peninsula, Li Shan'-pan (Institute of Geophysics and Meteorology, Chinese Ac. Sc.) - Seismological Investigations in China, and L. Natsagyus (Committee for Sciences and Higher Schools, Mongolian Republic) - Tectonics of Central Mongolia. Others who took part in the discussions were Corresponding Members of the Ac. Sc. USSR, [illegible] Fotiadi and Yu. A. Kosygin,

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The Director of the East Siberian Geological Institute M. M. Odintsov, and the Deputy Director of the Institute of Physics of the Earth, Ac. Sc. USSR, Ye. A. Koridalin. The Session was closed by the Rector of the Irkutsk University, V. Ya. Rogov.

3(5)
AUTHOR: Rezanov, I. A. SOV/20-125-4-51/74

TITLE: On the Riphey Deposits of the Okhotsk Massif (O rifeyskikh otlozheniyakh Okhotskogo massiva)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 870 - 872 (USSR)

ABSTRACT: T. P. Vronko, I. P. Vasetskiy, N. S. Chugunov, G. N. Chertovskikh and others (1944 - 1946) discovered in the Okhotsk massif a quartzite mass, schist peppered with hornstone, and calcareous stones. It rests with a distinctly marked angular discordance and with basal conglomerates upon biotite amphibole pyroxene and mica garnet gneisses. The latter belong to the Archeozoic time. The above mentioned mass is for its part discordantly covered by Permian strata. The discoverers counted this mass according to its stratigraphic position conditionally to the Lower and Middle Paleozoic time. The same age is ascribed to the mass on various geological maps. Anly A. A. Nikolayev assumed a higher age (Riphey, Sinium). The algae collected by the author in the mentioned mass were determined by V. P. Maslov as Ripheyic ones. The author characterizes the cross section of 2 districts of the Okhotsk massif. The stratigraphic position of the deposits dis-

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cussed in the present paper and the similarity of the lithologic composition facilitated the combination of single exposures of these deposits to a uniform complex of deposits. By the discovery of Conophyton cilindricus the Ripheyic age may be assumed for all other exposures of these rocks in the Okhotsk massif as well. From this new point of view the previous conceptions concerning the Paleozoic history of this region are changed: The Okhotsk massif formed a solid elevation during nearly the entire Paleozoic time when downwarpings occurred in the west (in eastern Verkhoyan'ye) and in the northeast (in the Kolyma massif). It was subjected to only short depressions to the Upper Permian and then to the Upper Triassic time. No considerable movements of folds took place here in the course of the Paleozoic time.

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta Akademii nauk SSSR (Institute of Earth Physics imeni O. Yu. Shmidt of the Academy of Sciences, USSR)

PRESENTED: December 7, 1958, by A. L. Yanshin, Academician

SUBMITTED: December 2, 1958

PHASE I BOOK EXPLOITATION [illegible]

Akademiya nauk SSSR. Sovet po seysmologii

Byulleten', No. 8: Voprosy seysmicheskogo rayonirovaniya [illegible] Council on Seismology, Academy of Sciences [illegible] Division Into Seismological Districts) [illegible], 19[illegible]. [illegible] p. [illegible] copies printed.

Resp. Ed.: S. V. Medvedev, Doctor of Technical Sciences; [illegible] House: I. A. Lozanov, and L. K. Nikolayeva; [illegible]

PURPOSE: This publication is intended for seismologists.

COVERAGE: The publication contains articles based on re[illegible] meeting of the Council on Seismology held in [illegible] articles reflect the present state of [illegible] ization" and discuss the following problems: [illegible] ization and microregionalization, [illegible] seismic maps, instrument and description [illegible] seismic regions of the USSR, and the relation [illegible] geological structure. The articles are accompanied by [illegible], and bibliographic references.

S/519/60/000/008/016/031
D051/D113

AUTHORS: Rezanov, I.A., Rastvorova, V.A., Leonov, N.N.

TITLE: Experimental close seismic zoning - a region of Western Turkmenistan serving as an example

SOURCE: Akademiya nauk SSSR. Sovet po seysmologii. Byulleten', no. 8, Moscow, 1960. Voprosy seysmicheskogo rayonirovaniya, 131-141

TEXT: The article deals with an attempt at close seismic zoning carried out by the Aralo-Kaspiyskaya ekspeditsiya Geofizicheskogo instituta (Aral-Caspian Expedition of the Geophysics Institute) which, in connection with planned hydrotechnical construction, had to compile a 1:200,000 scale map of seismic zoning for the territory of the Kopet-Dag mountain range and adjacent regions. For the compilation of this medium-scale map, a number of generalized geologic, geologic engineering, and geophysical data was required. The geological materials were selected and processed by the authors under the guidance of B.A. Petrushevskiy. The scientific workers of the Geophysics Institute S.S. Andreyev, Ye.I. Gal'perin, A.T. Donabedov, A.Z. Kats, I.P. Kosminskaya, N.N.

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S/519/60/000/008/015/031
D051/D113

Experimental close seismic ...

Leonov, S.I. Masarskiy, S.V.Medvedev, B.A. Petrushevskiy, S.V. Puchkov, V.A. Rastvorova, I.A. Rezanov, Ye.F. Savarenskiy, and D.A. Kharin participated in the selection of geophysical data, editorial work, and the final compilation of the map. The leader of the expedition G.A. Gamburtsev acted as editor and the work was completed in 1953. The original report, on which this article is based, was published by B.A. Petrushevskiy and the authors (Ref. 16: Geologicheskoye obosnovaniye karty seismicheskogo rayonirovaniya masshtaba 1:200,000 [Geological basis of a 1:200,000 scale map of seismic zoning]. Bib-ka In-ta fiziki Zemli, 1953). The authors describe the geological development of the region and dislocations due to faults, classifying the latter into several groups. A comparison between the distinguished tectonic zones and present seismicity showed that most earthquakes gravitate towards zones of recent tectonic movements. The proposed map of seismic zoning is considered as a more accurate and detailed parallel to a seismic sketch map. The special features of the proposed map are as follows: (1) The isolines of seismic intensity are given as 4-5 km wide zones. (2) Zones, the seismicity of which has recently increased, are distinguished. (3) Zones of possible secondary earthquake phenomena (landslides, etc.) are marked. (4) Zones of

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average, favorable and unfavorable ground conditions for construction are distinguished. Although aware of the map's shortcomings, the authors regard it as essential for the planning of large industrial regions and hydrotechnical construction. However, in the selection of individual building sites, more detailed maps of seismic microzoning would be required. There are 2 figures and 19 Soviet references.

ASSOCIATION: Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth of the AS USSR)

GZOVSKIY, M.V.; KRESTNIKOV, V.N.; LEONOV, N.N.; REZANOV, I.A.; REYSNER, G.I.

Map of recent tectonic movements in Central Asia. Izv. AN SSSR. Ser. geofiz. no.8:1168-1172 Ag '60. (MIRA 13:8)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Soviet Central Asia--Geology, Structural--Maps)

REZANOV, I.A.

Recent tectonics and seismicity in the northeastern part of the U.S.S.R. Biul. Sov. po seism. no.10:156-167 '60. (MIRA 13:11)

1. Institut fiziki Zemli AN SSSR, Moskva.
(Siberia, Eastern--Seismology)
(Siberia, Eastern--Geology, Structural)